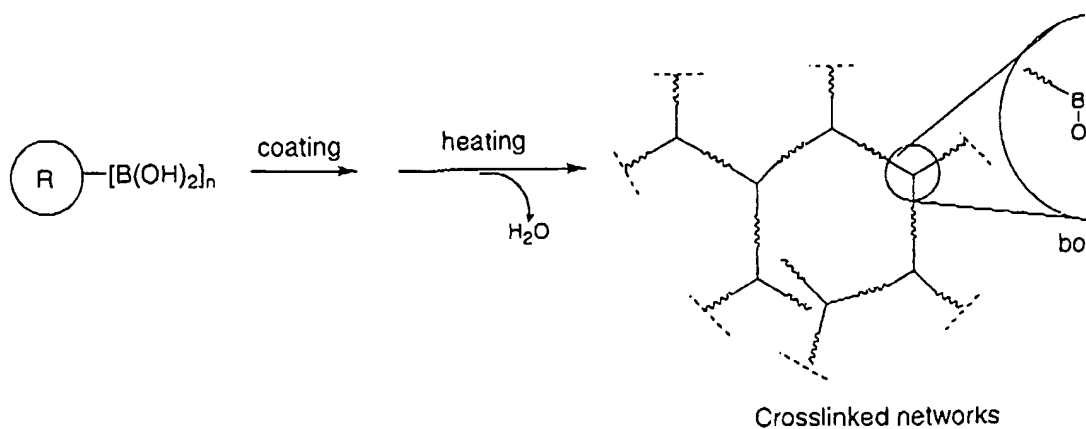
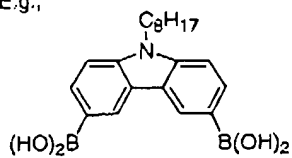


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 $n = \text{or} > 1$; R = organic or organometallic complex moiety including oligomer and polymer.

E.g.,



(CzBA)

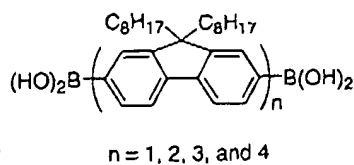
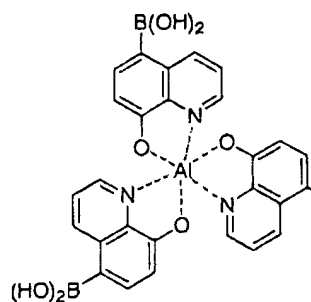
 (F_nBA) 

Fig. 1

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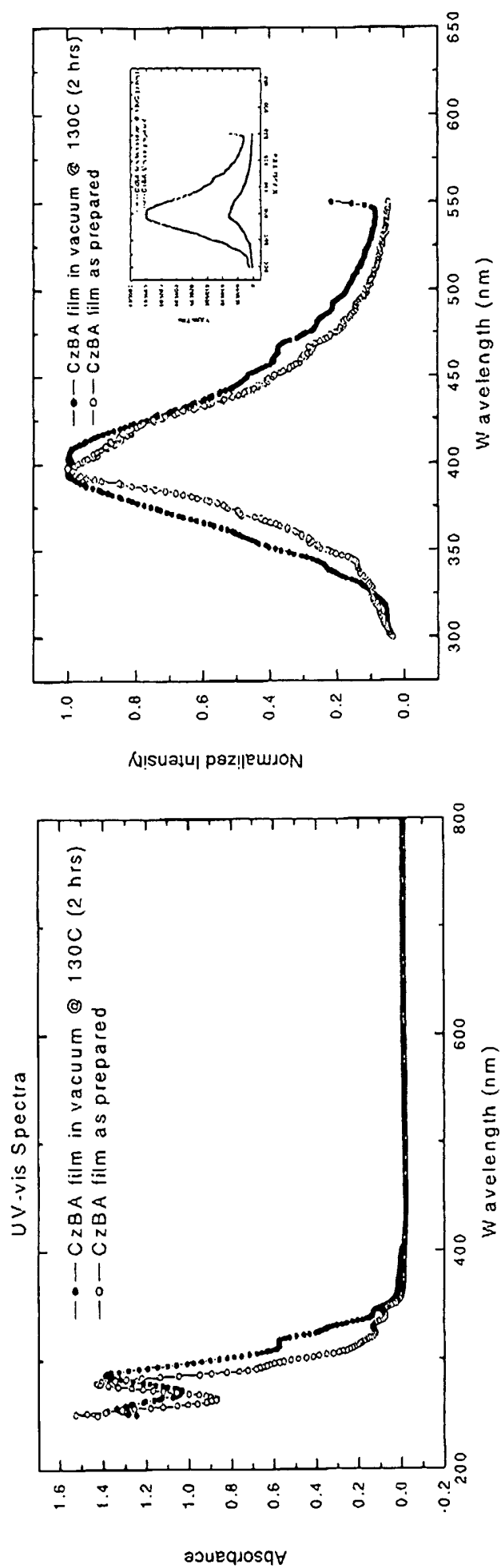


Fig. 2

10/534087

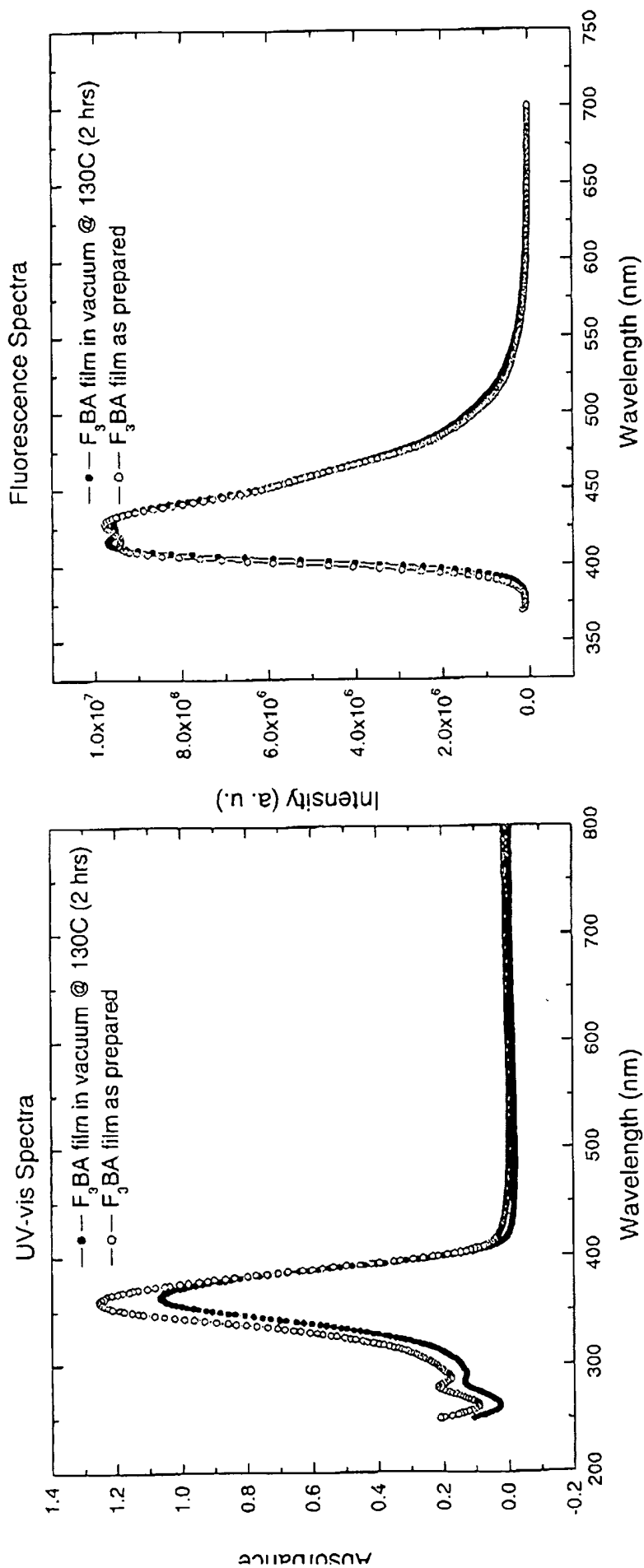


Fig. 3

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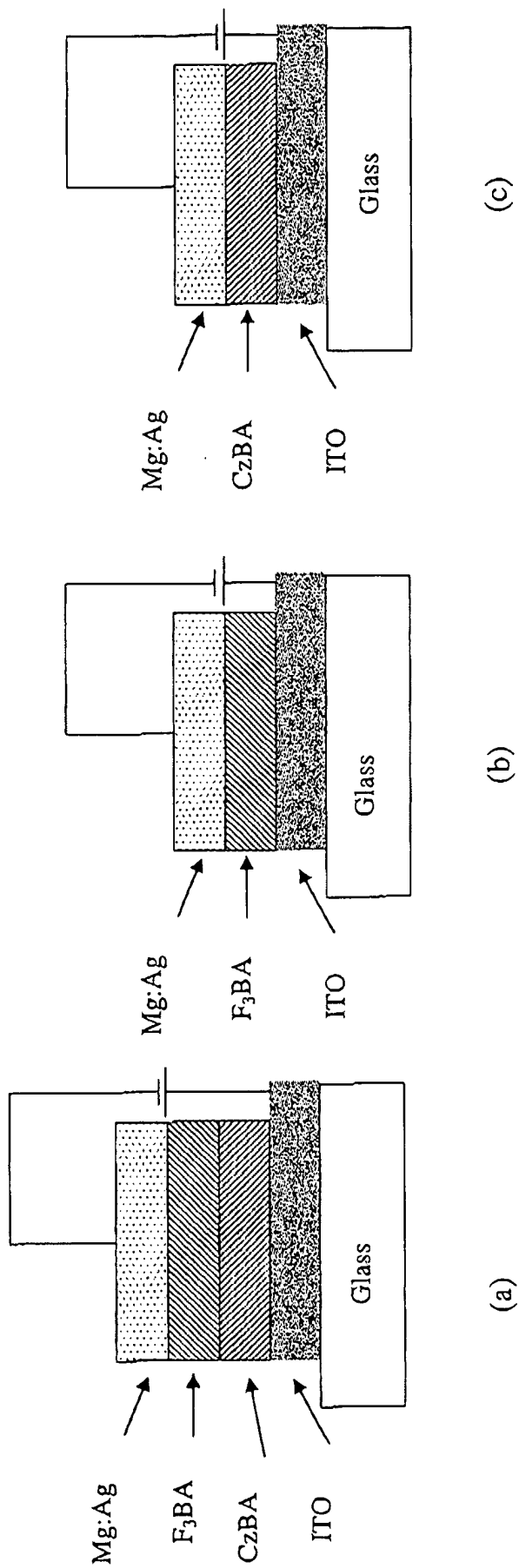


Fig. 4

10/534087

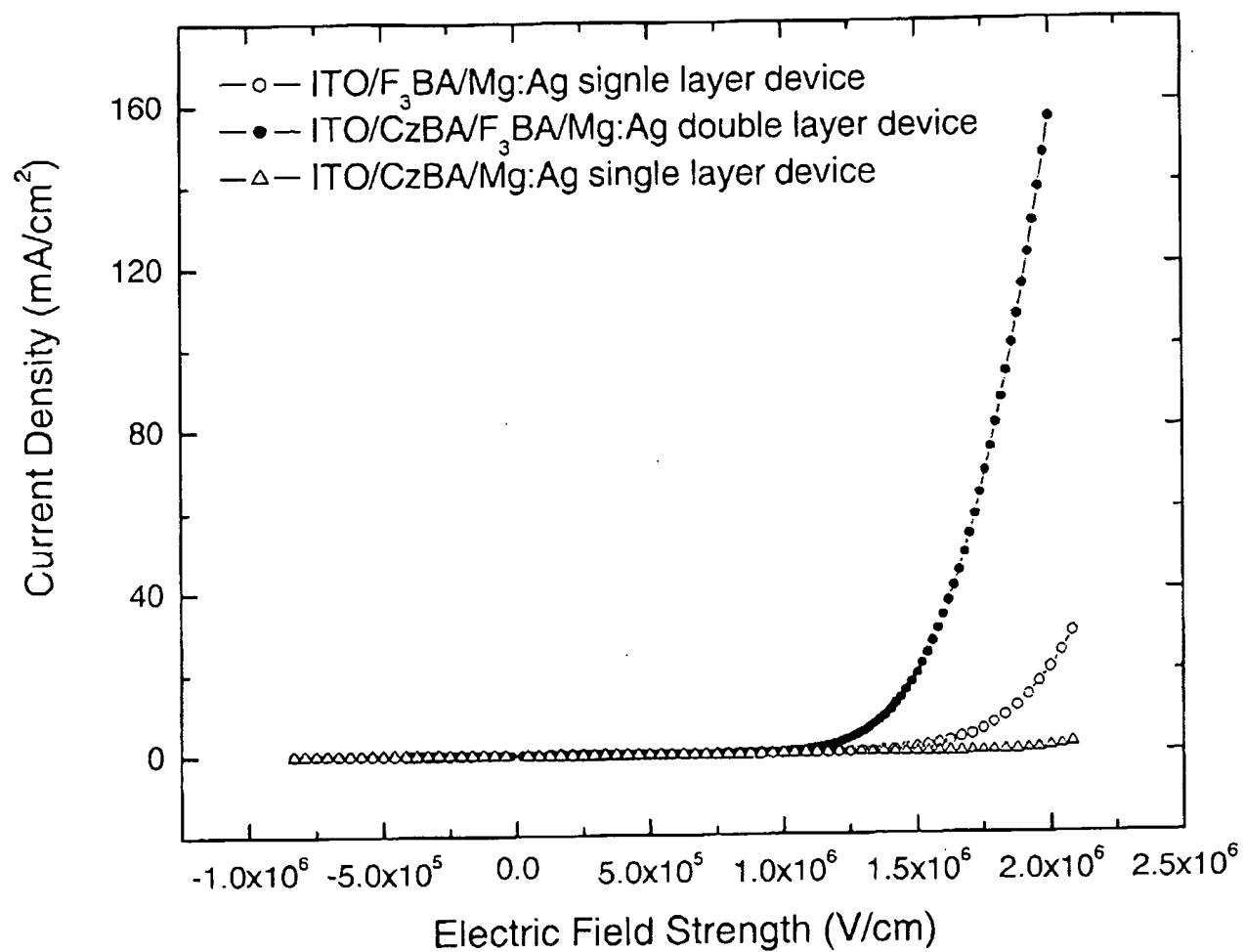


Fig. 5

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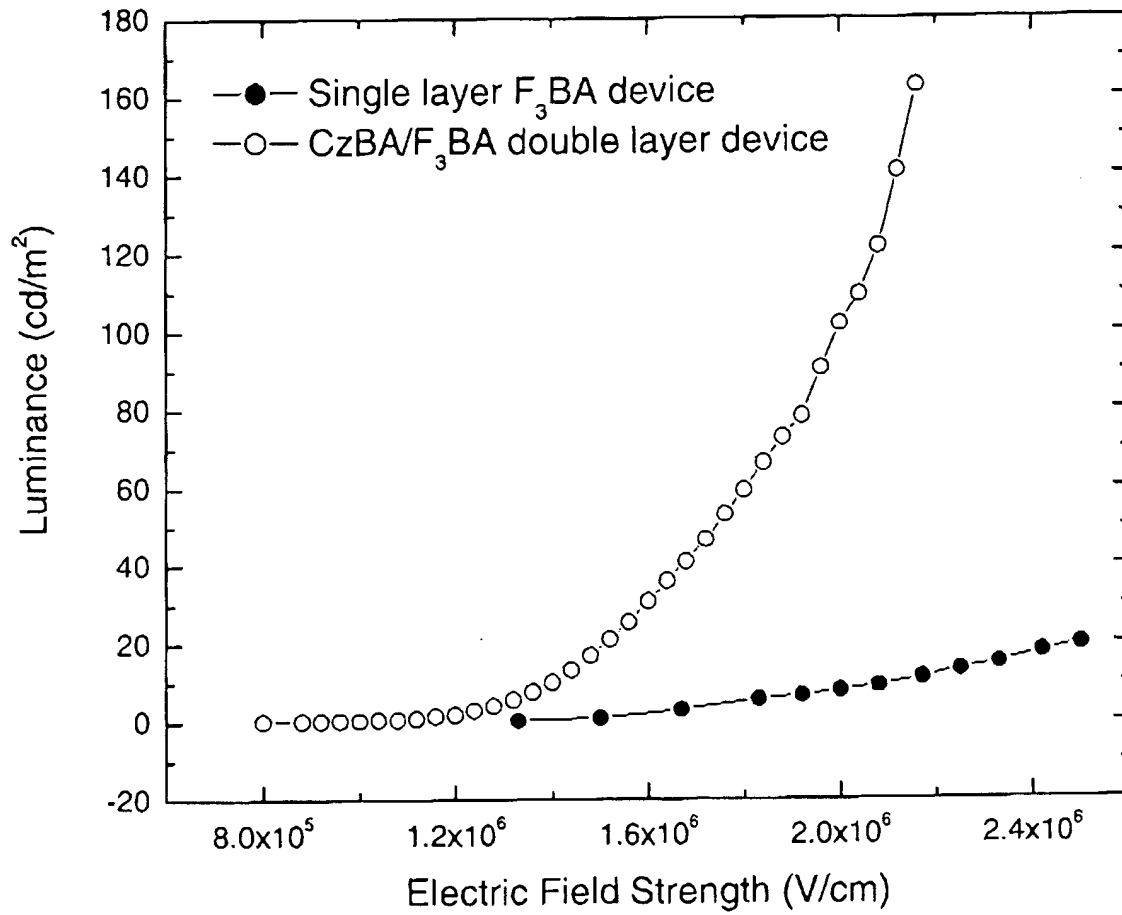


Fig. 6

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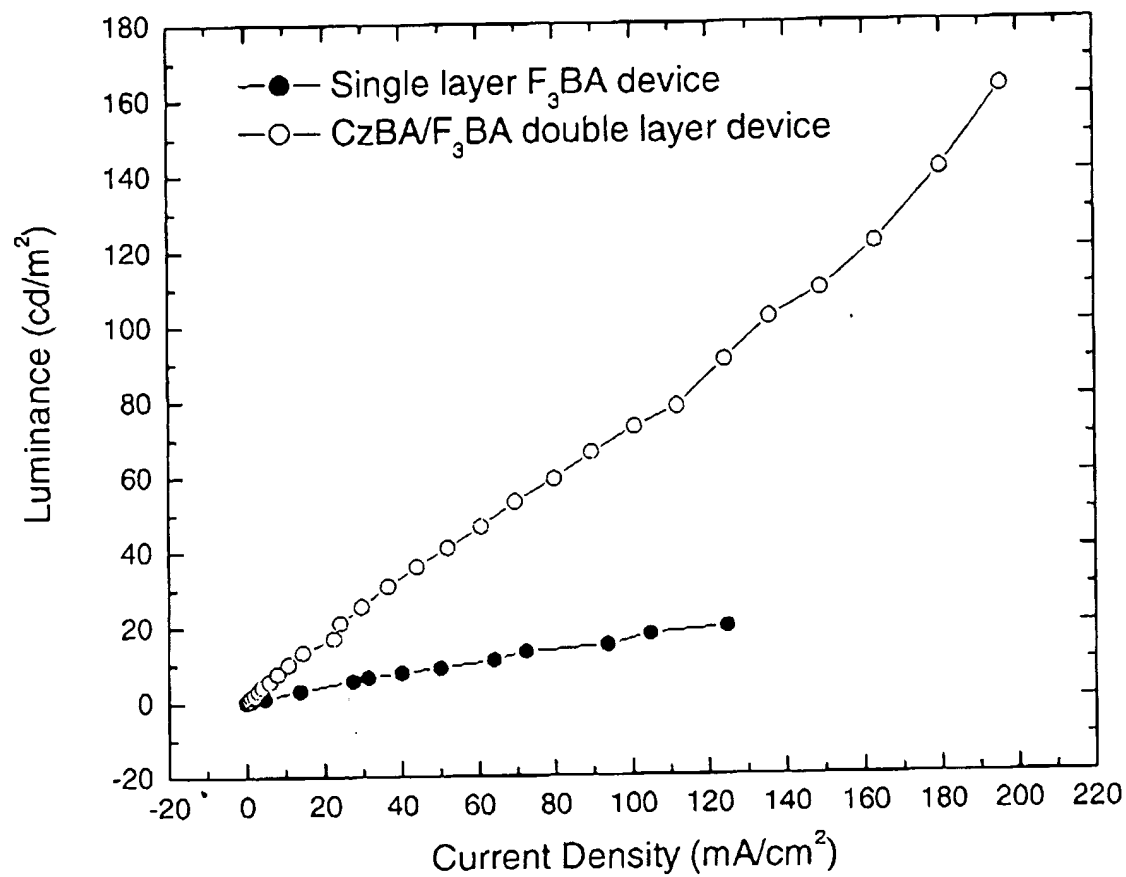


Fig. 7

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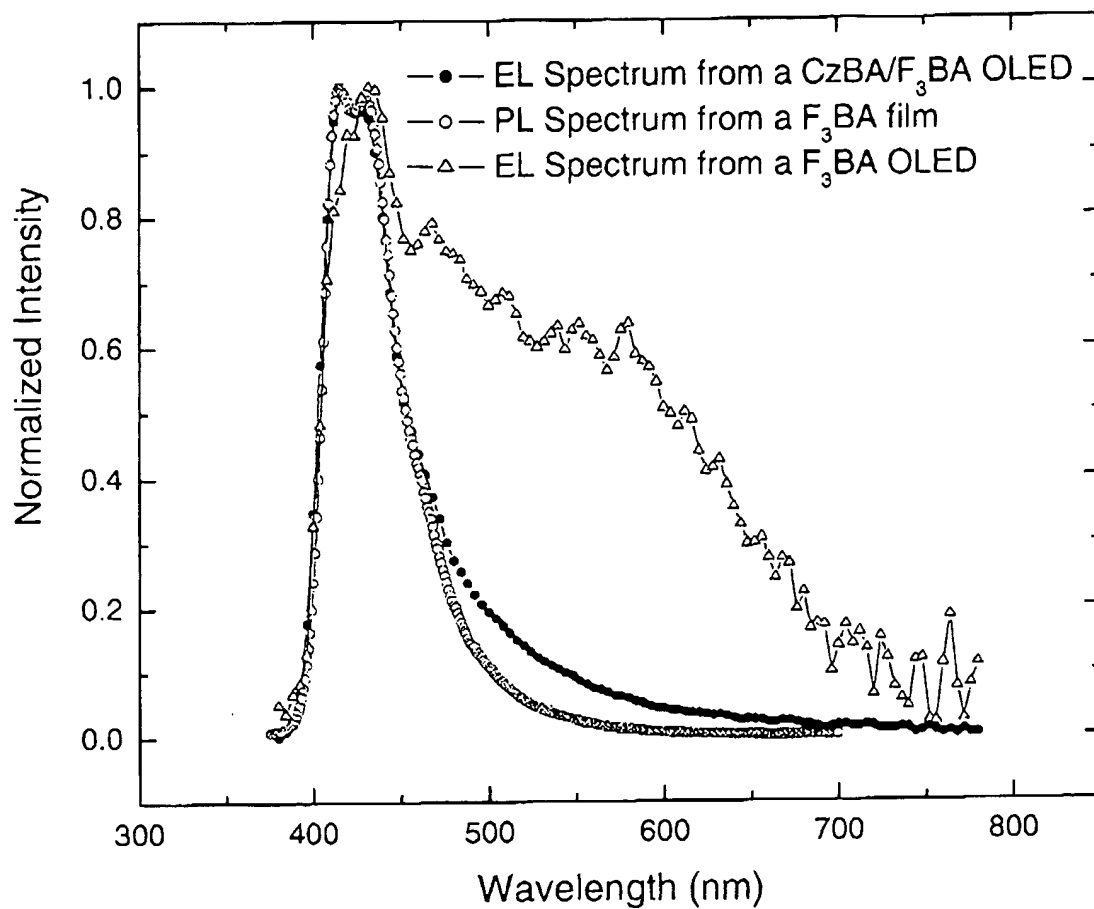


Fig. 8

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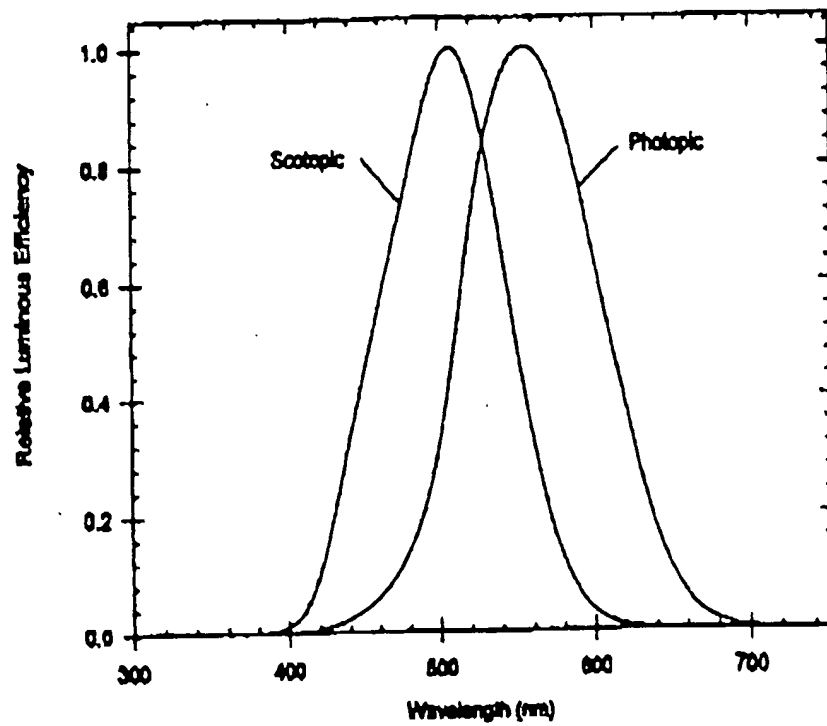
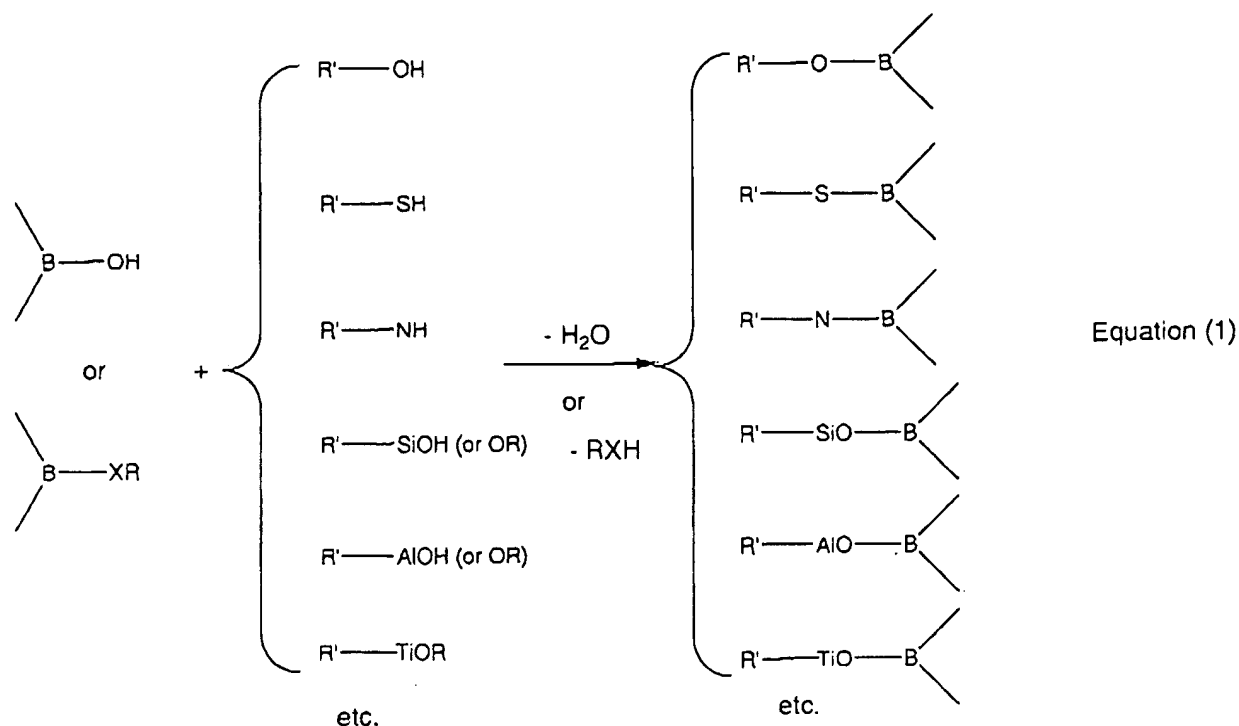
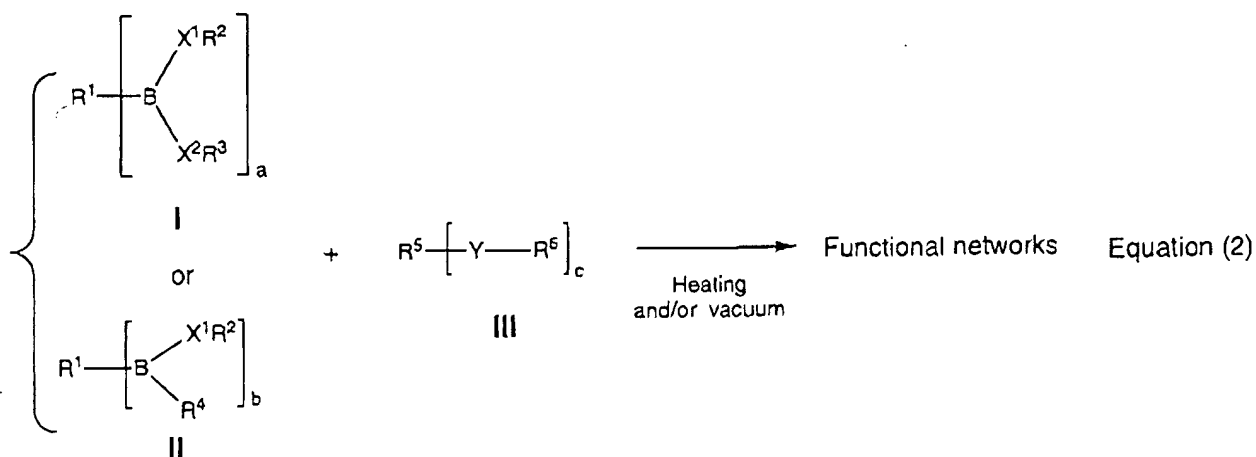


Fig. 9

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wherein, X = O, S, N; R and R' = alkyl, aryl, or any other organic and inorganic structures or groups.



wherein,

R¹, R⁴, and R⁵ = alkyl, aryl, or other groups, either organic or inorganic, but at least one of them contains functionality; they can be of small molecular weights or high molecular weights.

R², R³, R⁶ = H, alkyl, aryl, they may be same or different, but at least one of them is H.

X¹, X² = O, S, or N, they may be same or different.

Y = O, S, N (or NH), SiO, AlO, TiO, etc.

a, b, c are equal to or larger than one, but at least either a (or b) or c is larger than one.

Fig. 10

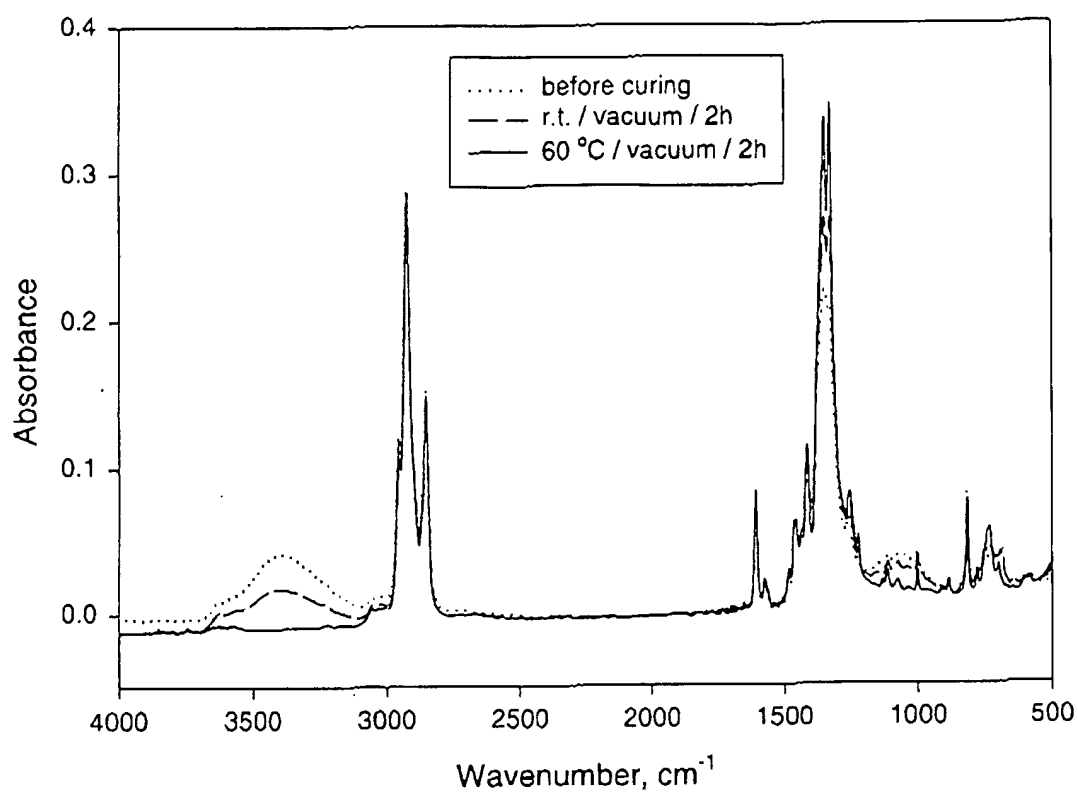
10/534087

Fig. 11

10/534087

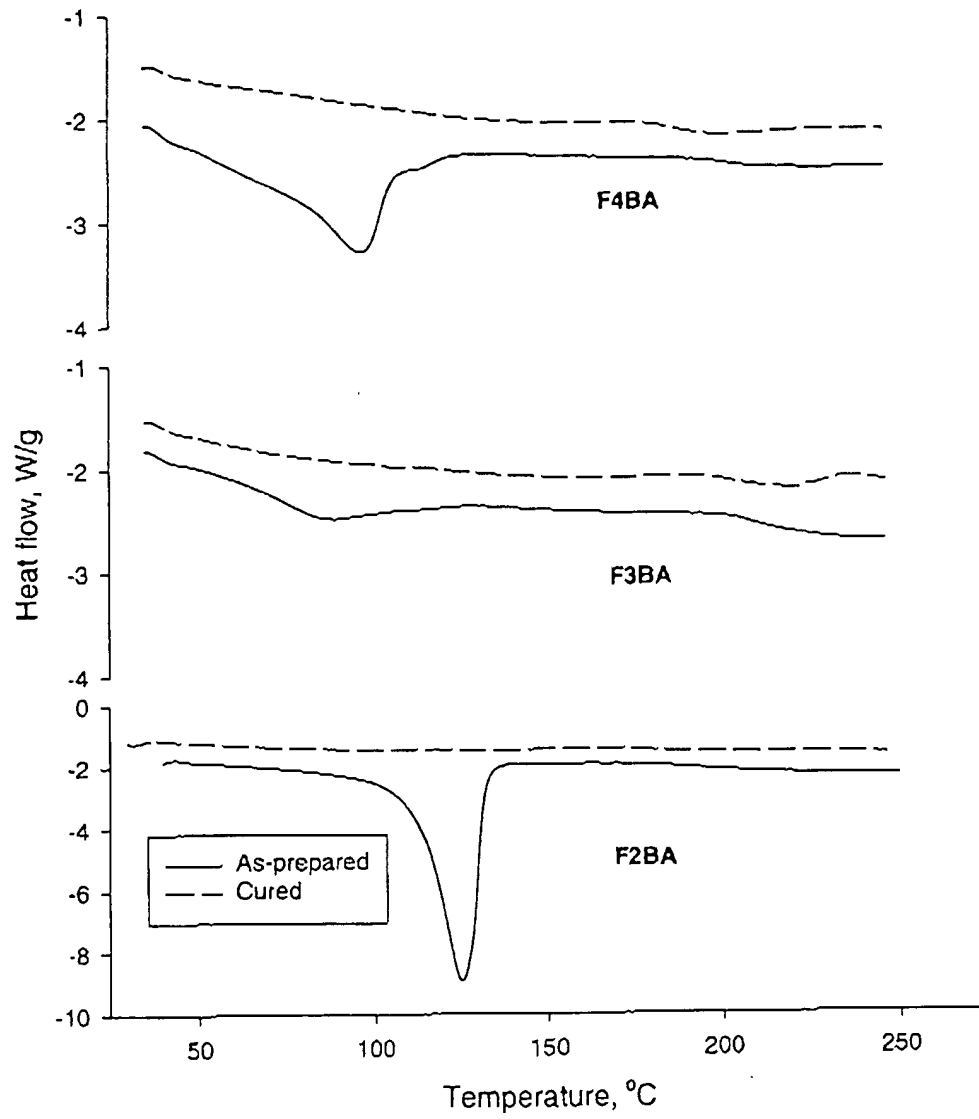


Fig. 12

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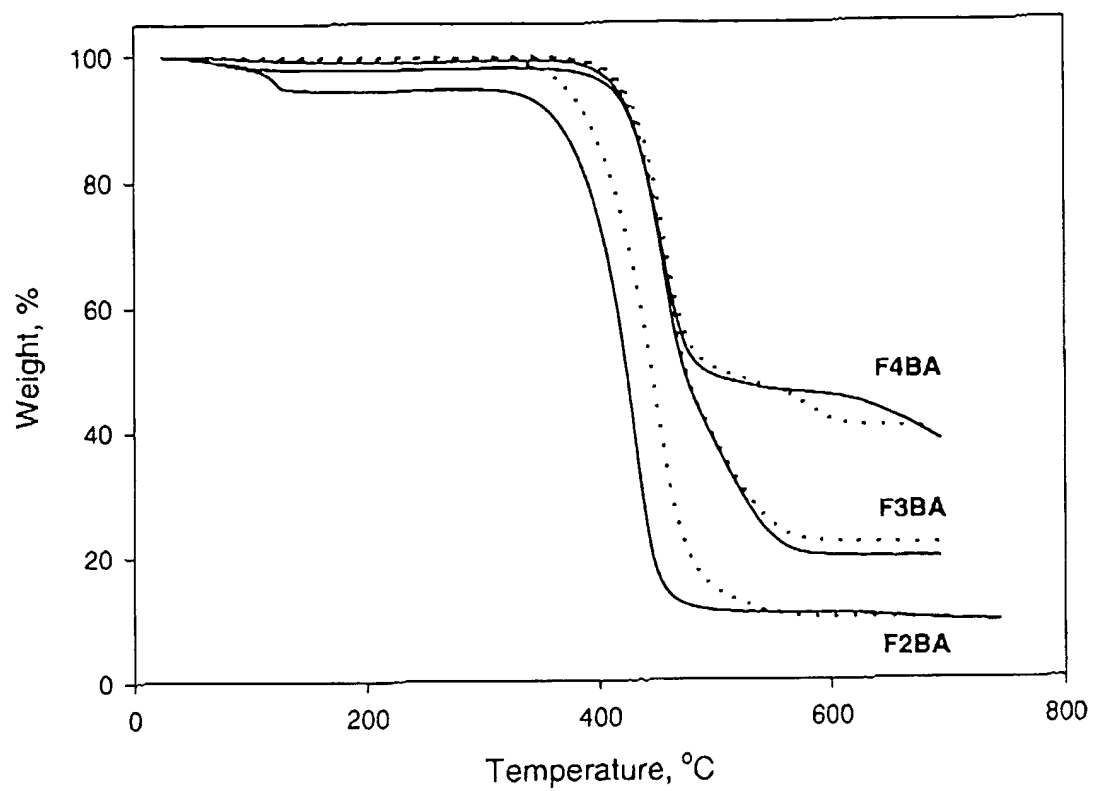
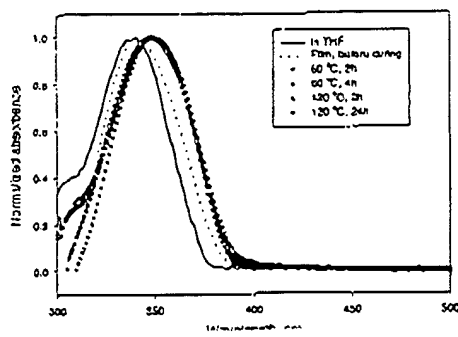
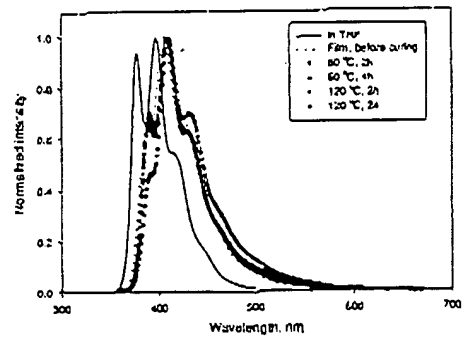


Fig. 13

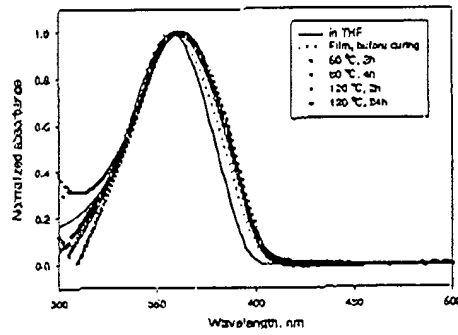
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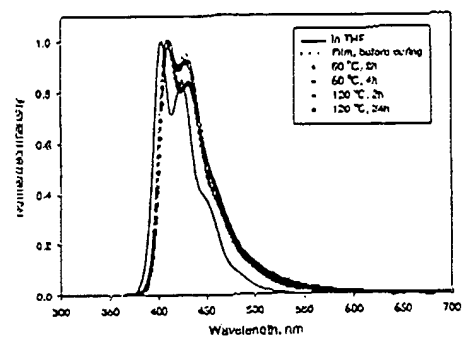
(a)



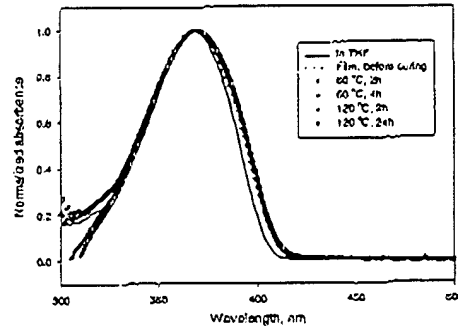
(a)



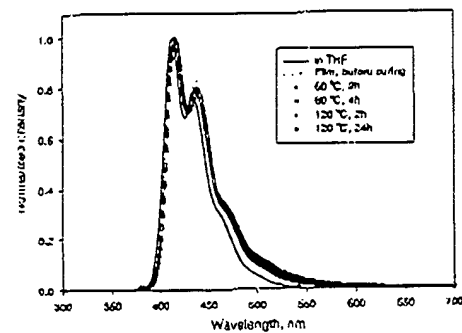
(b)



(b)



(c)



(c)

Fig. 14

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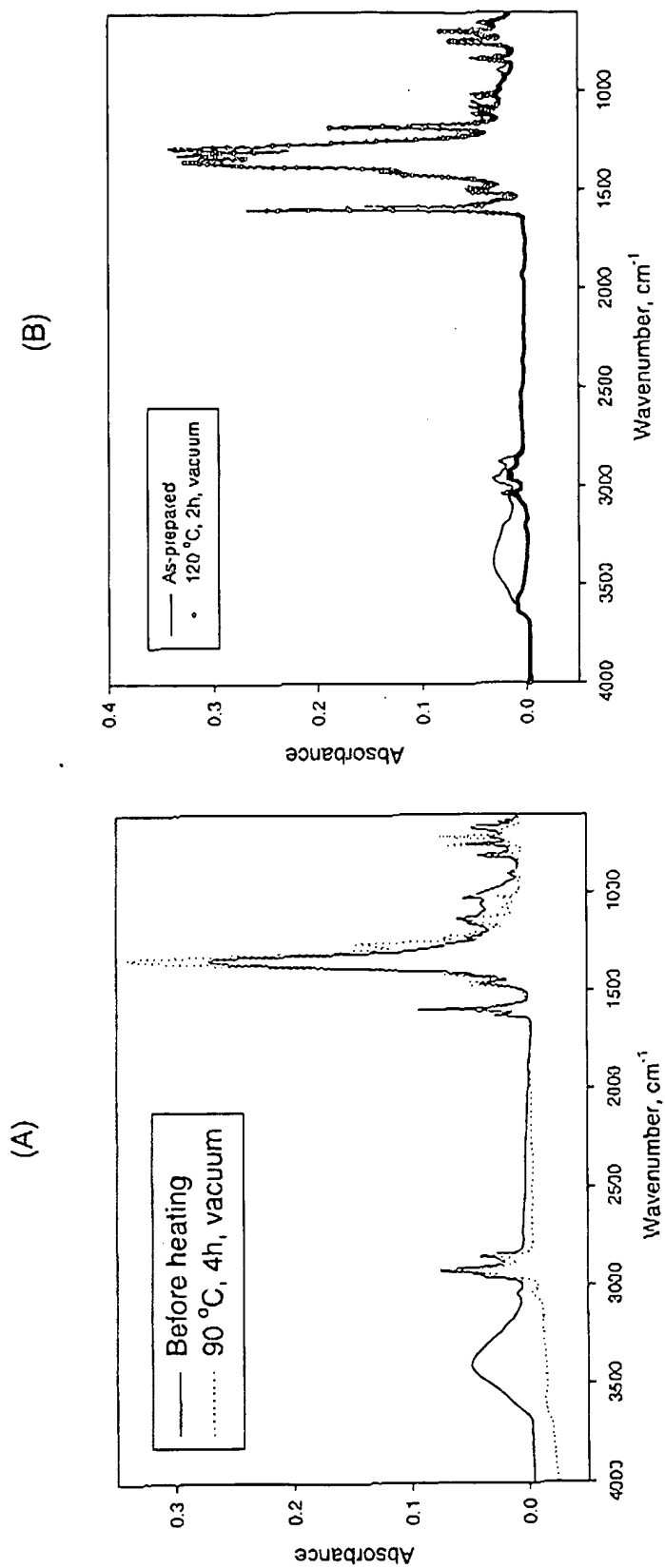


Fig. 15

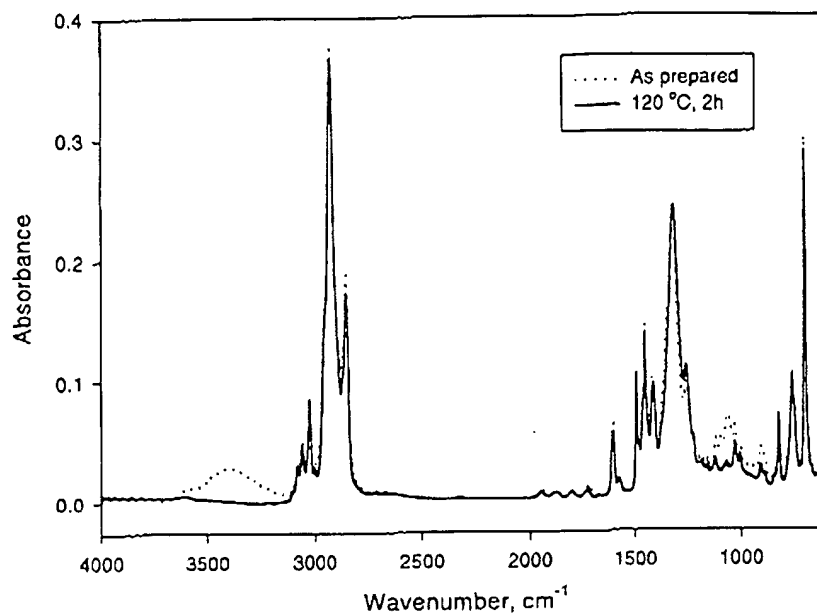
10/534087

Fig. 16

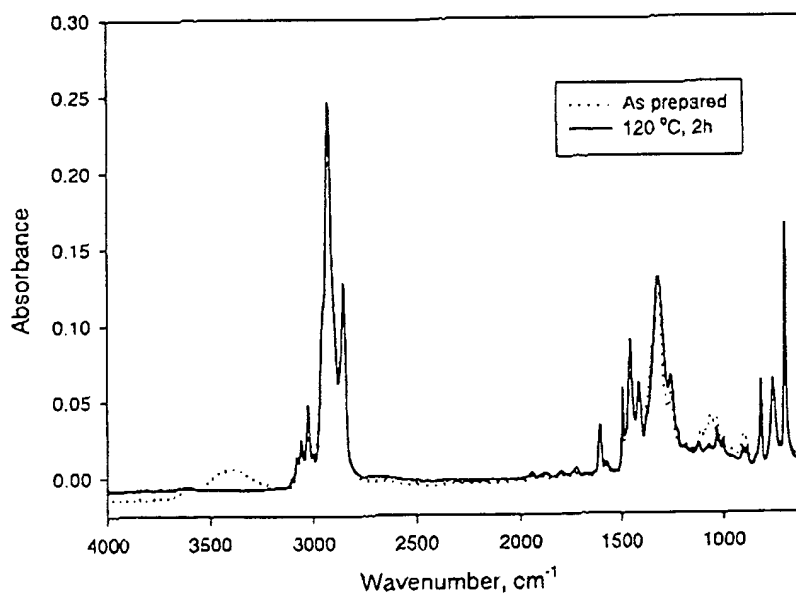


Fig. 17

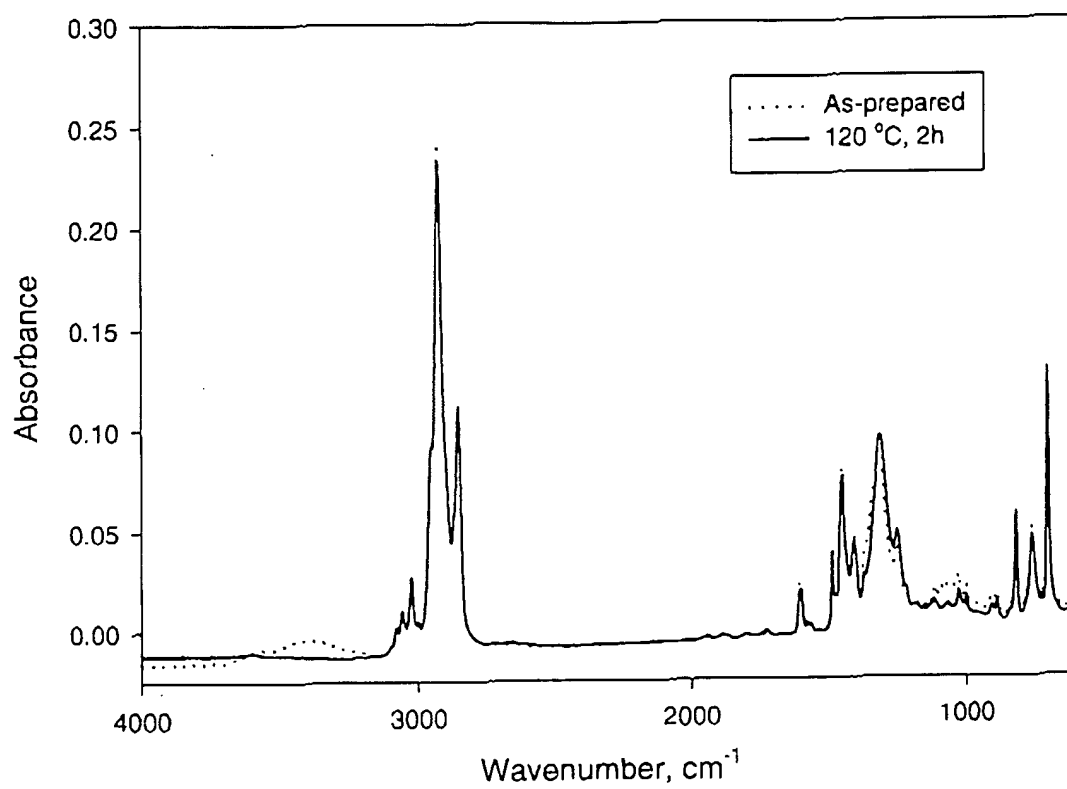
10/534087

Fig. 18

10/534087

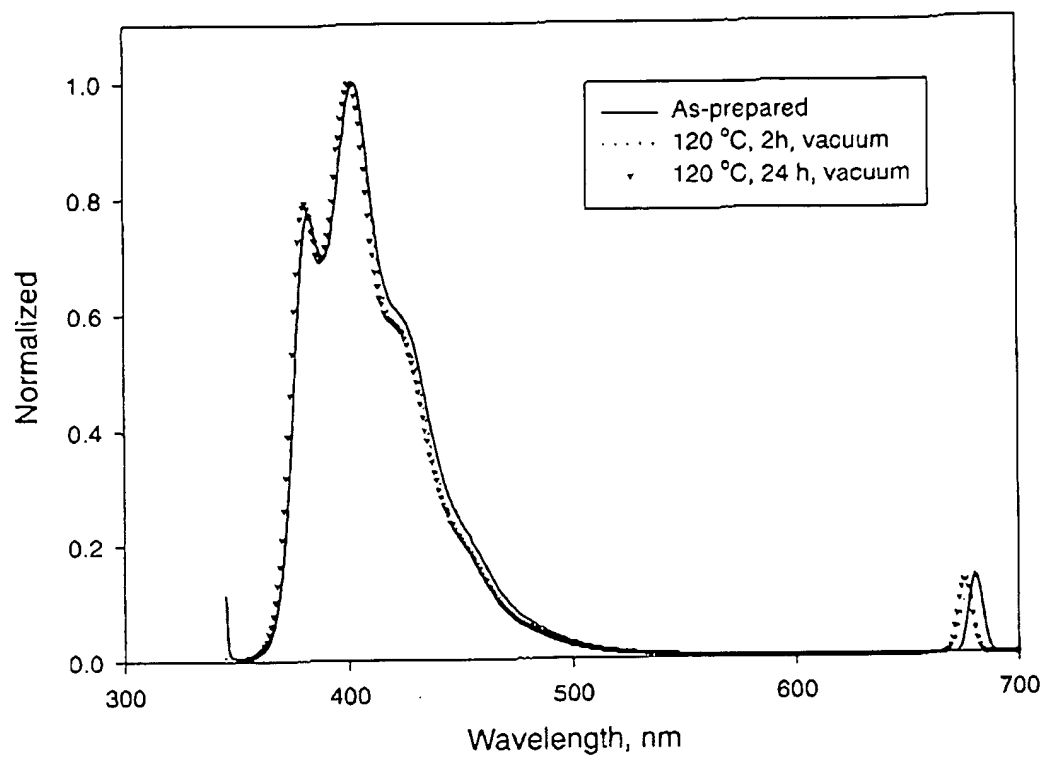


Fig. 19

10/534087

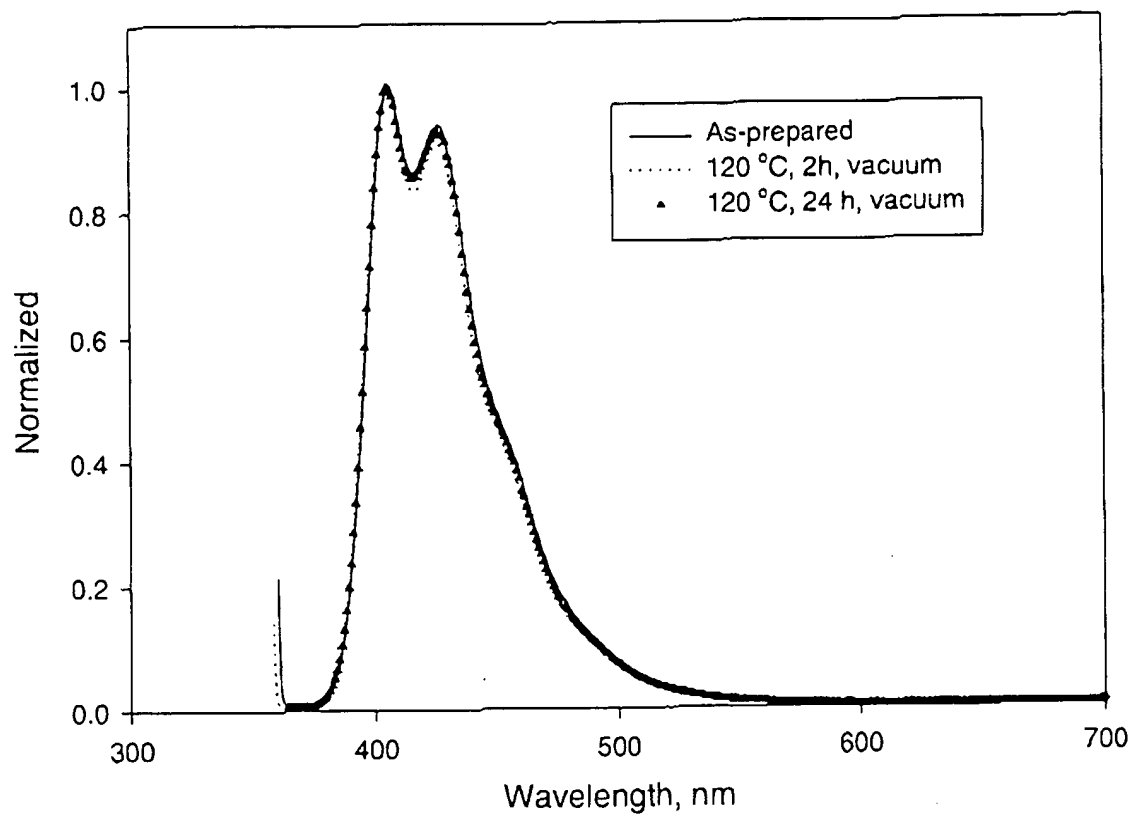


Fig. 20

10/534087

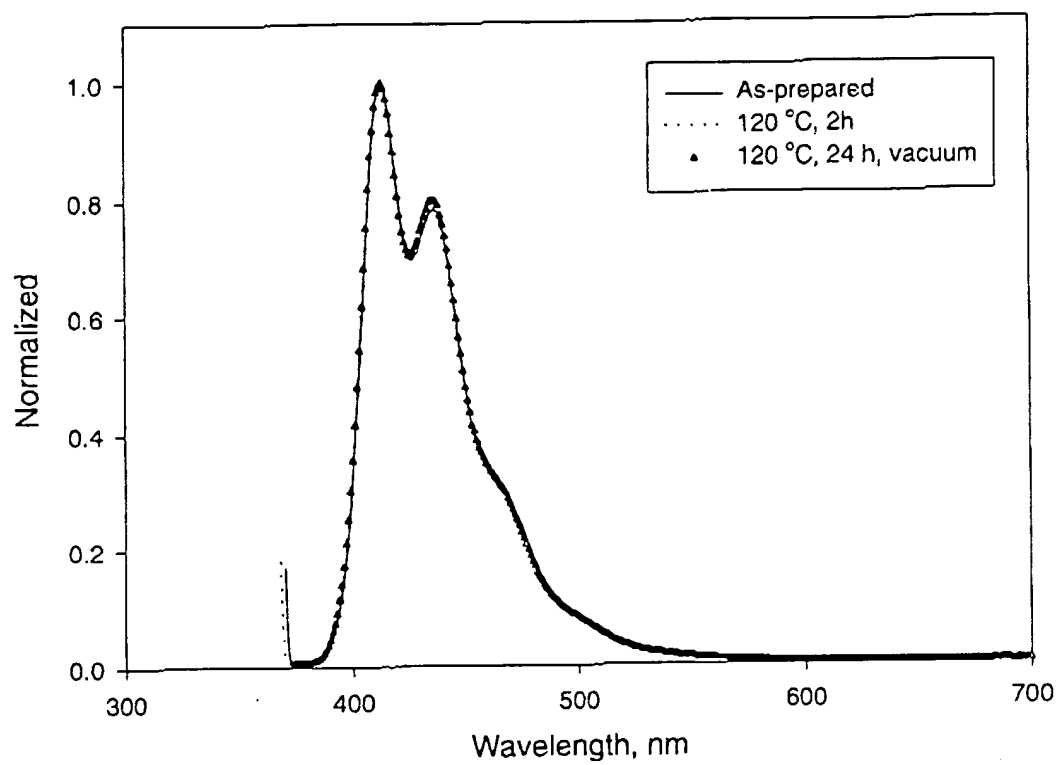


Fig. 21

10/534087

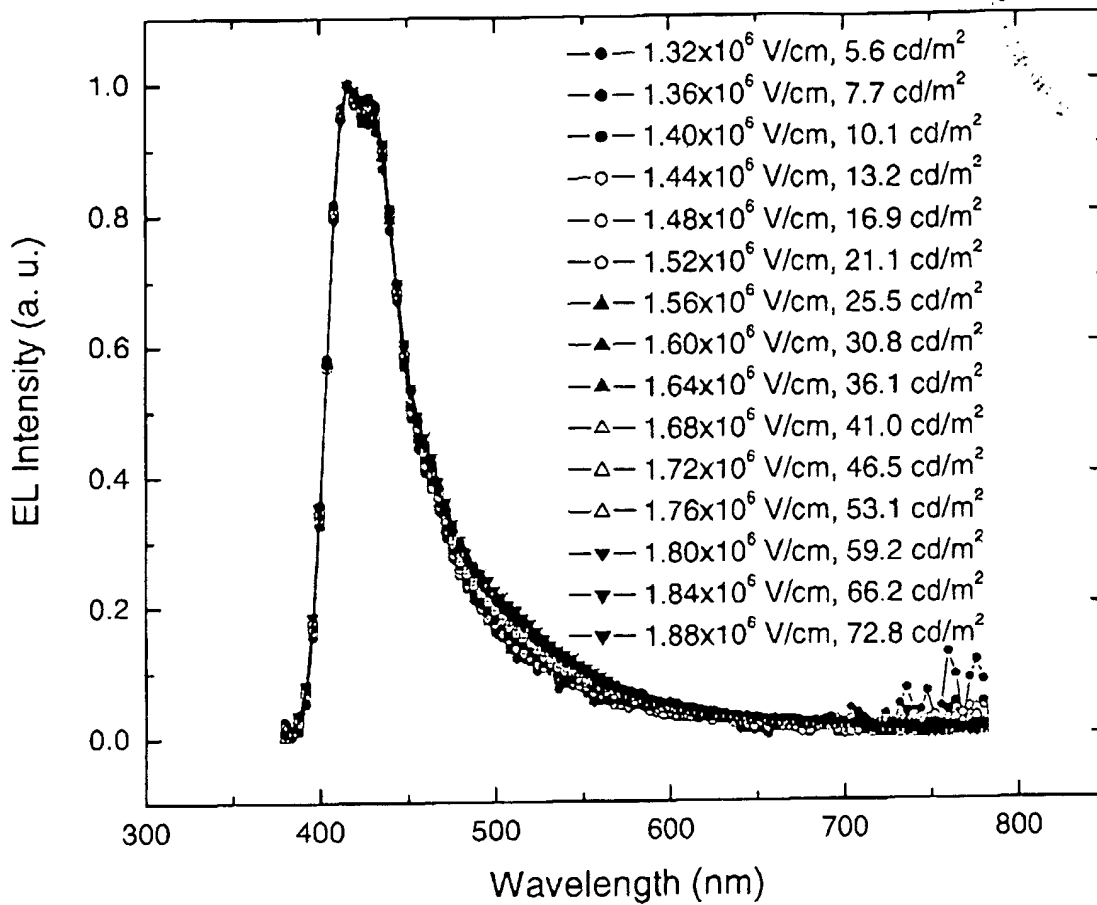


Fig. 22